

**Abstract:**

A method is provided for establishing a service connection between first and second network nodes in a WDM optical network for a plurality of network users. The method begins by receiving, from each network user, user-preferences prioritizing a plurality of decision criteria defining preferable characteristics of the service connection. Next, a prescribed algorithm is used to select a path and a channel wavelength at which information is to be conveyed over the path between the first and second nodes. The selection is based on the plurality of decision criteria as prioritized in accordance with the user-preferences. Finally, the first and second network nodes are interconnected over the selected path with the selected channel wavelength.

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